Floodplains

Bottomland hardwood forests Campo (1986), Cloud (1995), and others have described the Big Cypress Bayou Watershed bottomland hardwood forests. The reconnaissance findings indicate that 17% of the area surveyed is bottomland forest -- this percent includes shrub-dominated floodplain (Table 5). Reservoirs have inundated about 50,000 ac., formerly in bottomlands. Perhaps another 25,000 ac. have given way to development. Canopy cover on the reconnaissance sites ranges from: 3-91% with a mean of 73%; mid-story cover 3-63%, mean 38%; and ground cover 3-80%, mean 26% (Figure 19). The height of dominant trees is 50-110 ft., with a mean of 80 ft. Trees range up to 38 in. dbh (diameter at breast height) with a mean of 16 in. There are 80-320 trees per ac.; the mean is 160 per ac. on observed sites.

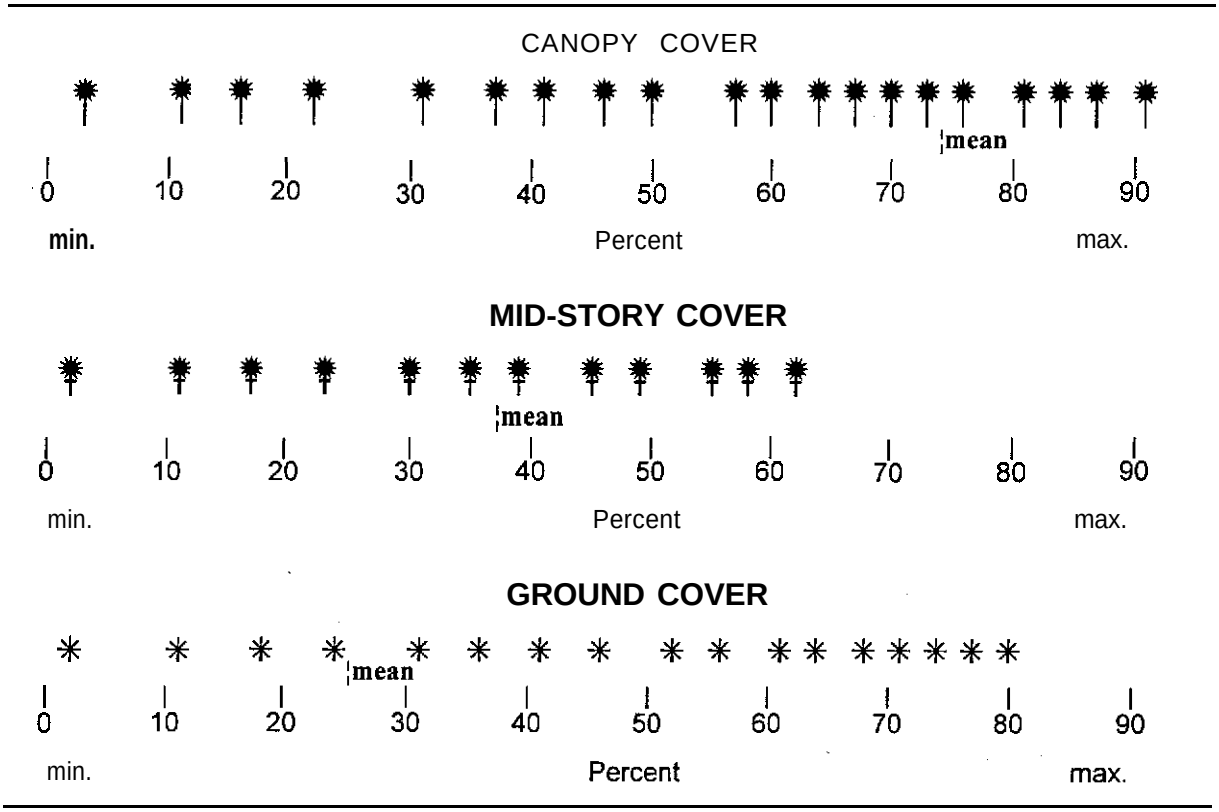

Figure 19. Percent vegetation cover on bottomland hardwood forest observed June - October 1994, Big Cypress Bayou Watershed.

One hundred thirty-seven plant species, 44% of those observed during. the reconnaissance, and 7 1 animal species, 42% of those observed, were recorded as characteristic of bottomland hardwood forests in summer-fall (Appendix F). Forests on narrow stream floodplains have different floral composition than on broad floodplains. There is substantial variability as well within these general types (Figures 20 and 21). Water oak-willow oak stands were encountered on 2% of the bottomland surveys. Water oak-willow oak is a special attention community discussed below. Bottomland forests were ranked highest among cover types in general wildlife habitat value (WHV = 8) and second only to waterbodies in ecological quality (EQR = 2)(Table 3). They were estimated to yield less forage than other ranges (USNRCS, 1972)(Table 6). Relatively high percentages of browse and low percentages of grass make bottomland forests more suitable range for deer than cattle (Table 7). While forage quantity may be lower on floodplains than on certain other ranges, forage quality may be better. Quality is more important than quantity for deer (Laycock and Price, 1970; Dietz, 1970; Thill, 1983). Deer density in the eastern Watershed is about 15 ac./ deer compared with half that density on upland ranges in the western Watershed (Charles Muller, pers. comm.).

Figure 20. Bottomland hardwood forest on a narrow floodplain of upper Little Cypress Bayou, Franklin County, TX.

Figure 21. Bottomland hardwood forest on a broad floodplain within the Caddo Lake complex, Marion County, TX.

Table 6. Forage yield indices for range site types, Big Cypress Bayou Watershed, Texas and Louisiana.'

	% / Lbs. DM of Yeadv Foraae Yield per acre					
Range Site Type	Grass/ Grasslike	Forbs	Browse	All Mast	Other	Est. Yearly Yield
Hardwood Bottomland	21/168	8/64	68/544	3/24	--	800
Pine - Hardwood Upland	28/336	7/84	63/756	2/24	--	1200
Managed Pine Forest	52/780	21/315	26/390	1/15	--	1500
Shrub Upland'	7511875	10/250	141350	1/25	--	2500
Grasslands	9013 150	9/315	1/35	--	--	3500

[1]Follows Sheffield et al. (1995).

*Includes sub-merchantable pine plantations.

Table 7. Forage use indices for white-tailed deer and cattle on Big Cypress Bayou Watershed rangeland.'

	% of Diet / Yearly Intake (lbs. DM)					Total (lbs. DM)	
Animal Class	Grass/ Grasslike	Forbs	Browse	All Mast	Other	Day	Year
Deer	7/102	13/1 90	7411080	4/58	2/29	4	1459
Cattle	86/8471	3/296	10/985	0.9/89	0.1/10	27	985 1

'Follows Sheffield et al. (1995).

Shrub-dominated floodplain. This type covers less than one percent of the reconnaissance area. Shrub floodplain is characterized by little or no tree canopy; and dominated by mixed herbage and woody species up to about 15 ft. high (Figure 22). Floodplain shrubland usually was found in early successional stages after having been clearcut for wood products, cleared for agriculture and drainage improvement, or otherwise disturbed. The dense, low vegetation is good escape, resting, and foraging habitat for white-tailed deer, and other ground-dwelling wildlife, and of less utility for animals reliant on a diverse vertical vegetation structure. Shrub floodplain structural diversity, spews richness, WHV, and EQR is similar to shrub uplands mentioned below. Relatively small shrub-dominated acreages interspersed within a mosaic of cover types may have greater ecological value than large unbroken acreages.

Figure 22. Shrub-dominated floodplain in Marion County TX. The site was cleared for pasture and not maintained. Shrub regrowth is predominately buttonbush